



1724  
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**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE**

|  |  |             |               |                  |
|--|--|-------------|---------------|------------------|
| In re United States Patent Application of: | )  | Docket No.: | 4115-197      |                  |
|  | )  |             |               |                  |
|  | )  |             |               |                  |
| Applicants:                                | SCHREIER, Harold J., et al.  | )           | Conf. No.:    | 6432             |
|  | )  |             |               |                  |
|  | )  |             |               |                  |
| Application No.:                           | 10/588,256   | )           | Art Unit:     | 1724             |
|  | )  |             |               |                  |
| Date Filed:                                | July 29, 2006  | )           | Examiner:     | Not Yet Assigned |
|  | )  |             |               |                  |
| Title:                                     | DISSIMILATORY SULFATE<br>REDUCTION AS A PROCESS<br>TO PROMOTE<br>DENITRIFICATION IN<br>MARINE RECIRCULATING<br>AQUACULTURE SYSTEMS | )           | Customer No.: | 23448            |
|  | )  |             |               |                  |
|  | )  |             |               |                  |
|  | )  |             |               |                  |

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*Barbara Owens*

Barbara Owens

November 1, 2006

Date of Mailing

**INFORMATION DISCLOSURE STATEMENT IN  
U.S. PATENT APPLICATION NO. 10/588,256**

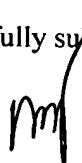
Mail Stop Amendment  
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Sir:

Pursuant to 37 C.F.R. §1.56, the attention of the Patent and Trademark Office is hereby directed to the reference(s) listed on the attached Information Disclosure Statement forms PTO/SB/08a and PTO/SB08b. One copy of each foreign patent and each non-patent reference are attached. It is respectfully requested that the information be expressly considered during the prosecution of this application, and that the reference(s) be made of record therein and appear among the "References Cited" on any patent to issue therefrom.

This Information Disclosure Statement is being filed before the mailing date of a first Office Action on the merits. No certification or fee is required.

Respectfully submitted,



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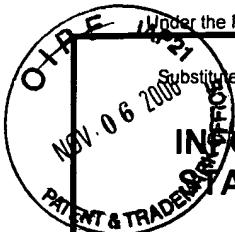
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Attorney for Applicants

**INTELLECTUAL PROPERTY/  
TECHNOLOGY LAW**  
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Attorney File No.: 4115-197

**Enclosures:**

**IDS Forms PTO/SB/08a and PTO/SB/08b [ 3 pg(s).]  
Foreign Patent References [ 59 pgs.]  
Non-Patent References [ 107 pgs.]  
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**Substitute for form 1449A/PTO**

## INFORMATION DISCLOSURE STATEMENT BY APPLICANT

*(Use as many sheets as necessary)*

Sheet 1 of 3

**Complete if Known**

|                        |                  |
|------------------------|------------------|
| Application Number     | 10/588,256       |
| Filing Date            | 7/29/2006        |
| First Named Inventor   | Schreier et al.  |
| Art Unit               | 1724             |
| Examiner Name          | Not Yet Assigned |
| Attorney Docket Number | 4115-197         |

## FOREIGN PATENT DOCUMENTS

| FOREIGN PATENT DOCUMENTS |                       |   |                                |  |   |                |
|--------------------------|-----------------------|---|--------------------------------|--|---|----------------|
| Examiner Initials*       | Cite No. <sup>1</sup> | Foreign Patent Document   | Publication Date<br>MM-DD-YYYY | Name of Patentee or<br>Applicant of Cited Document | Pages, Columns, Lines,<br>Where Relevant Passages<br>or Relevant Figures Appear | T <sup>6</sup> |
|                          |                       | Country Code <sup>3</sup> - Number <sup>4</sup> - Kind Code <sup>5</sup> (if known) |                                |  |   |                |
|                          | AC                    | JP - 2002-159992 - A  | 06-04-2002                     | Boku, Wanchoru, et al.                             |   | ✓              |
|                          | AD                    | WO - 98/07664 - A1  | 02-26-1998                     | Van Loosdrecht, Marinus Cornelis Maria, et al.     |   |                |
|                          |                       |   |                                |  |   |                |
|                          |                       |   |                                |  |   |                |

|                       |  |                    |  |
|-----------------------|--|--------------------|--|
| Examiner<br>Signature |  | Date<br>Considered |  |
|-----------------------|--|--------------------|--|

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|-----------------------------------|---|----|---|-----------------------------|------------------|
| Substitute for form 1449B/PTO     |   |    |   | <b>Complete if Known</b>    |                  |
|                                   |   |    |   | <i>Application Number</i>   | 10/588,256       |
|                                   |   |    |   | <i>Filing Date</i>          | 7/29/2006        |
|                                   |   |    |   | <i>First Named Inventor</i> | Schreier et al.  |
|                                   |   |    |   | <i>Art Unit</i>             | 1724             |
|                                   |   |    |   | <i>Examiner Name</i>        | Not Yet Assigned |
| (Use as many sheets as necessary) |   |    |   |                             |                  |
| Sheet                             | 2 | of | 3 | Attorney Docket Number      | 4115-197         |

| <b>NON PATENT LITERATURE DOCUMENTS</b> |          |   |  |  |  |   |
|--|----------|---|--|--|--|---|
| Examiner Initials*                     | Cite No. | Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published. |  |  |  | T |
|  | AE       | DAIMS, H., ET AL., Novel Nitrospira-like bacteria as dominant nitrite-oxidizers in biofilms from wastewater treatment plants: diversity..., Water Science and Technology, 2000, Page(s) 85-90, Volume 41, Number 4-5  |  |  |  |   |
|  | AF       | HOVANEC, T.A., ET AL., Comparative analysis of nitrifying bacteria associated with freshwater and marine aquaria, Appl. Environ. Microbiol., August 1996, Page(s) 2888-2896, Volume 62, Number 8  |  |  |  |   |
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|  | AH       | MEGONIGAL, J.P., ET AL., Anaerobic metabolism: Linkages to trace gases and aerobic processes, Biochemistry (W.H. Schlesinger, Ed), 2004, Page(s) 359-361, Publisher: Elsevier-Pergamon, Published in: Oxford, UK  |  |  |  |   |
|  | AI       | O'DONNELL, ANTHONY G., ET AL., 16S rDNA methods in soil microbiology , Current Opin. Biotech., June 1999, Page(s) 225-229, Volume 10, Number 3  |  |  |  |   |
|  | AJ       | PRINCIC, ALENKA, ET AL., Effects of pH and Oxygen and Ammonium Concentrations on the Community Structure of Nitrifying Bacteria from Wastewater , Appl. Environ. Microbiol., October 1998, Page(s) 3584-3590, Volume 64, Number 10                              |  |  |  |   |
|  | AK       | RUSTEN, BJØRN, ET AL., Moving bed biofilm reactors and chemical precipitation for high efficiency treatment of wastewater from small..., Water Sci. Tech., 1997, Page(s) 71-79, Volume 35, Number 6   |  |  |  |   |
|  | AL       | RUSTEN, B., ET AL., Pilot testing and preliminary design of moving bed biofilm reactors for nitrogen removal at the FREVAR wastewater..., Water Sci. Tech., 2000, Page(s) 13-20, Volume 41, Number 4-5  |  |  |  |   |
|  | AM       | STROUS, MARC, ET AL., Missing lithotroph identified as new planctomycete, Nature, July 29, 1999, Page(s) 446-449, Volume 400, Number 6743   |  |  |  |   |
|  | AN       | TAL, YOSSI, ET AL., Characterization of the microbial community and nitrogen transformation processes associated with moving bed..., Aquaculture, January 10, 2003, Page(s) 187-202, Volume 215, Number 1-4   |  |  |  |   |

|                    |  |                 |  |
|--------------------|--|-----------------|--|
| Examiner Signature |  | Date Considered |  |
|--------------------|--|-----------------|--|

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|--|------------------|----|---|---|----------|---------------------------|------------|--------------------|-----------|-----------------------------|-----------------|-----------------|------|----------------------|------------------|
| <p>Substitute for form 1449B/PTO</p> <p><b>INFORMATION DISCLOSURE STATEMENT BY APPLICANT</b></p> <p><i>(Use as many sheets as necessary)</i></p> |                  |    |   | <p><b>Complete if Known</b></p> <table border="1"> <tr> <td><i>Application Number</i></td> <td>10/588,256</td> </tr> <tr> <td><i>Filing Date</i></td> <td>7/29/2006</td> </tr> <tr> <td><i>First Named Inventor</i></td> <td>Schreier et al.</td> </tr> <tr> <td><i>Art Unit</i></td> <td>1724</td> </tr> <tr> <td><i>Examiner Name</i></td> <td>Not Yet Assigned</td> </tr> </table> |          | <i>Application Number</i> | 10/588,256 | <i>Filing Date</i> | 7/29/2006 | <i>First Named Inventor</i> | Schreier et al. | <i>Art Unit</i> | 1724 | <i>Examiner Name</i> | Not Yet Assigned |
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| <i>Examiner Name</i>   | Not Yet Assigned |    |   |   |          |                           |            |                    |           |                             |                 |                 |      |                      |                  |
| Sheet  | 3                | of | 3 | <i>Attorney Docket Number</i>   | 4115-197 |                           |            |                    |           |                             |                 |                 |      |                      |                  |

## NON PATENT LITERATURE DOCUMENTS

|                       |  |                    |  |
|-----------------------|--|--------------------|--|
| Examiner<br>Signature |  | Date<br>Considered |  |
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